



U.S. Department
of Transportation
**National Highway
Traffic Safety
Administration**

400 Seventh Street, S.W.
Washington, D.C. 20690

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

MAR 7 2003

Mr. Heino W. Scharf
Director, Product Assurance
Volvo Trucks North America, Inc.
7900 National Service Road (27409)
P. O. Box 26115
Greensboro, NC 27402-6115

NVS-214
EA02-021

Dear Mr. Scharf:

This letter is to inform you that the Office of Defects Investigation (ODI) of the National Highway Traffic Safety Administration (NHTSA) has opened an Engineering Analysis (EA02-021) to investigate allegations of "any fracture, torque loss, stretching, or continuous loosening of the front suspension U-bolts" in certain vehicles manufactured by Volvo Trucks North America, Inc. and to request information from Volvo Trucks North America (VTNA).

ODI has reviewed VTNA's April 12, 2002 responses to ODI's earlier inquiry on this subject and is now requesting that Volvo provide updated information regarding field performance related to front suspension U-bolts and certain other potentially relevant technical information.

Unless otherwise stated in the text, the following definitions apply to this information request:

- **Subject vehicles:** all 1996 through 2003 (designated Model Year 1998-2003) Day Cabs, VN 420, 610, 660, and 770 series truck tractors manufactured for sale or lease in the United States.
- **Subject component:** the front suspension U-bolt retention system.
- **Volvo Trucks North America, Inc. (VTNA)** all of its past and present officers and employees, whether assigned to its principal offices or any of its field or other locations, including all of its divisions, subsidiaries (whether or not incorporated) and affiliated enterprises and all of their headquarters, regional, zone and other offices and their employees, and all agents, contractors, consultants, attorneys and law firms and other persons engaged directly or indirectly (e.g., employee of a



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consultant) by or under the control of Volvo (including all business units and persons previously referred to), who, in or after 1996, are or were involved in any way with any of the following related to the alleged defect in the subject vehicles:

- a. Design, engineering, analysis, modification or production (e.g. quality control);
 - b. Testing, assessment or evaluation;
 - c. Consideration, or recognition of potential or actual defects, reporting, record-keeping and information management, (e.g., complaints, field reports, warranty information, part sales), analysis, claims, or lawsuits; or
 - d. Communication to, from or intended for zone representatives, fleets, dealers, or other field locations, including but not limited to people who have the capacity to obtain information from dealers.
- **Alleged defect:** any fracture, torque loss, stretching, or continuous loosening of the front suspension U-bolt system which includes the U-bolts, nuts and other components listed in Question 8.
 - **Document:** "Document(s)" is used in the broadest sense of the word and shall mean all original written, printed, typed, recorded, or graphic matter whatsoever, however produced or reproduced, of every kind, nature, and description, and all non-identical copies of both sides thereof, including, but not limited to, papers, letters, memoranda, correspondence, communications, electronic mail (e-mail) messages (existing in hard copy and/or in electronic storage), faxes, mailgrams, telegrams, cables, telex messages, notes, annotations, working papers, drafts, minutes, records, audio and video recordings, data, databases, other information bases, summaries, charts, tables, graphics, other visual displays, photographs, statements, interviews, opinions, reports, newspaper articles, studies, analyses, evaluations, interpretations, contracts, agreements, jottings, agendas, bulletins, notices, announcements, instructions, blueprints, drawings, as-builts, changes, manuals, publications, work schedules, journals, statistical data, desk, portable and computer calendars, appointment books, diaries, travel reports, lists, tabulations, computer printouts, data processing program libraries, data processing inputs and outputs, microfilms, microfiches, statements for services, resolutions, financial statements, governmental records, business records, personnel records, work orders, pleadings, discovery in any form, affidavits, motions, responses to discovery, all transcripts, administrative filings and all mechanical, magnetic, photographic and electronic records or recordings of any kind, including any storage media associated with computers, including, but not limited to, information on hard drives, floppy disks, backup tapes, and zip drives, electronic communications, including but not limited to, the Internet and shall include any drafts or revisions pertaining to any of the foregoing, all other things similar to any of the foregoing, however denominated by Volvo, any other data compilations from which information can be obtained, translated if necessary, into a usable form and any other documents. For purposes of this request, any document which contains any note, comment, addition, deletion, insertion, annotation, or otherwise comprises a non-identical copy of another document shall

be treated as a separate document subject to production. In all cases where original and any non-identical copies are not available, "document(s)" also means any identical copies of the original and all non-identical copies thereof. Any document, record, graph, chart, film or photograph originally produced in color must be provided in color. Furnish all documents whether verified by the manufacturer or not. If a document is not in the English language, provide both the original document and an English translation of the document.

- **Other Terms:** To the extent that they are used in these information requests, the terms "claim," "consumer complaint," "dealer field report," "field report," "fire," "fleet," "good will," "make," "model," "model year," "notice," "property damage," "property damage claim," "rollover," "type," "warranty," "warranty adjustment," and "warranty claim," whether used in singular or in plural form, have the same meaning as found in 49 CFR 579.4.

In order for my staff to evaluate the alleged defect, certain information is required. Pursuant to 49 U.S.C. § 30166, please provide numbered responses to the following information requests. Insofar as Volvo has previously provided a document to ODI, VTNA may produce it again or identify the document, the document submission to ODI in which it was included and the precise location in that submission where the document is located. When documents are produced, the documents shall be produced in an identified, organized manner that corresponds with the organization of this information request letter (including all individual requests and subparts). When documents are produced and the documents would not, standing alone, be self-explanatory, the production of documents shall be supplemented and accompanied by explanation.

Please repeat the applicable request verbatim above each response. After VTNA's response to each request, identify the source of the information and indicate the last date the information was gathered.

Response to inquiries 1, 3, and 4 should be provided in Microsoft Access 2000 or compatible format.

Population

1. State the total number of subject vehicles that VTNA has sold or leased in the United States by model and model year.

Provide the requested data on a 3-1/2" diskette or CD-ROM in Microsoft Access 2000, or a compatible format, entitled "PRODUCTION DATA."

Field Performance related to Front Suspension U-bolt System

2. State the number of each of the following, received by VTNA, or of which VTNA is otherwise aware, whether verified or not, which relate to, or may relate to, the alleged defect in the subject vehicles:

- a. Consumer or owner complaints, including those from fleet operators;
- b. Field reports, including dealer field reports;
- c. Reports involving a crash, injury, or fatality, based on claims against the manufacturer involving a death or injury, notices received by the manufacturer alleging or proving that a death or injury was caused by a possible defect in a subject vehicle, property damage claims, consumer complaints, or field reports;
- d. Property damage claims; and,
- e. Third-party arbitration proceedings where VTNA is or was a party to the arbitration; and,
- f. Lawsuits, both pending and closed, in which VTNA is or was a defendant or codefendant.

For subparts "a" through "c" state the total number of each item (e.g., consumer complaints, field reports, etc.) separately. Multiple incidents involving the same vehicle are to be counted separately. Multiple reports of the same incident are also to be counted separately (i.e., a consumer complaint and a field report involving the same incident in which a crash occurred are to be counted as a crash report, a field report and a consumer complaint).

In addition, for items "c" through "f," provide a summary description of the alleged problem and causal and contributing factors and VTNA's assessment of the problem, with a summary of the significant underlying facts and evidence. For items d and f, identify the parties to the action, as well as the caption, court, docket number, and date on which the complaint or other document initiating the action was filed.

ODI has changed the requested format to Microsoft Access 2000 since the time that Volvo last provided information to ODI for this investigation. Therefore VTNA's response to this request should be in Microsoft Access 2000 format and should include all complaints received by VTNA whether or not these reports had been previously provided in VTNA's April 12, 2002 response to ODI regarding this subject.

3 For each item (complaint, report, claim, notice, or matter) within the scope of your response to Request No. 2, state the following information grouped by the category of the item as identified in Request No. 2 above:

- a. Vehicle owner or fleet name (and fleet contact person), address, and telephone no.
- b. Vehicle's VIN;
- c. Vehicle's model;
- d. Vehicle's model year;

- e. Vehicle's mileage at time of incident;
- f. Incident date;
- g. Report or claim date;
- h. Whether a crash is alleged;
- i. Whether property damage is alleged;
- j. Number of alleged injuries, if any; and
- k. Number of alleged fatalities, if any.

Provide the requested data on a 3-1/2" diskette or CD-ROM in Microsoft Access 2000, or a compatible format, entitled "FIELD PERFORMANCE DATA."

Warranty Claim Information

4. State, by model and model year, the total count for all of the following categories of claims, collectively, that have been paid by VTNA to date that relate to, or may relate to, the alleged defect in the subject vehicles: warranty claims; extended warranty claims; claims for good will services that were provided; field, zone, or similar adjustments and reimbursements; and warranty claims or repairs made in accordance with a procedure specified in a technical service bulletin or customer satisfaction campaign.

For each such claim, state the following information:

- a. VTNA's claim number;
- b. Vehicle owner or fleet name (and fleet contact person) and telephone number;
- c. VIN;
- d. Repair date;
- d. Vehicle mileage at time of repair;
- e. Repairing dealer's or facility's name, telephone number, city and state or ZIP code;
- f. Verbatim description of problem reported by customer; and
- g. Comments, if any, by dealer/technician relating to claim and/or repair.

Provide the requested data on a 3-1/2" diskette or CD-ROM in Microsoft Access 2000, or a compatible format, entitled "WARRANTY DATA."

5. Describe in detail the search criteria used by VTNA to identify the claims identified in response to Request No. 4, including the problem codes, part numbers and any other pertinent parameters used.

6. State, by make and model year, the terms of the new vehicle warranty coverage offered by VTNA on the subject vehicles (i.e., the number of months and mileage for which coverage is provided and the vehicle systems that are covered). Describe any extended warranty coverage option(s) related to the alleged defect that VTNA offered for the subject vehicles and state by option, model, and model year, the number of vehicles that are covered under each such extended warranty.

7. Produce copies of all service, warranty, and other documents that relate to, or may relate to, the alleged defect in the subject vehicles, that VTNA has issued (and which were not included in the April 2002 response to NHTSA) to any dealers, regional or zone offices, field offices, fleet purchasers, or other entities. This includes, but is not limited to, bulletins, advisories, informational documents, training documents, or other documents or communications, with the exception of standard shop manuals.

Also include the latest draft copy of any communication that VTNA is planning to issue within the next 120 days.

VTNA Investigation Activity

8. Describe all assessments, analyses, tests, test results, studies, surveys, simulations, investigations, inquiries and/or evaluations (collectively, "actions") that relate to, or may relate to, the alleged defect in the subject vehicles that have been conducted, are being conducted, are planned, or are being planned by, or for, VTNA. For each such action, provide the following information:

- a. Activity title or identifier;
- b. The actual or planned start date;
- c. The actual or expected end date;
- d. Brief summary of the subject and objective of the activity;
- e. Engineering group(s)/supplier(s) responsible for designing and for conducting the activity; and,
- f. A brief summary of the findings and/or conclusions resulting from the activity.

For each action identified, provide copies of all documents organized chronologically that are related to the activity, regardless of whether the documents are in interim, draft, or final form.

Changes in Design or Assembly of the Front Suspension Retention System

9. Provide a copy of the metallurgical specifications and the mechanical and fatigue properties for (a) the U-bolts and (b) the U-bolt nuts installed in the subject vehicles.

10. Describe all modifications or changes made by, or on behalf of, VTNA in the design, material composition, manufacture, quality control, supply, or installation of the front axle U-bolt system from the start of production to date, which relate to, or may relate to, the alleged defect in the subject vehicles.

Include consideration of changes to other major components in the front suspension U-bolt joint that could affect front suspension U-bolt clamp integrity including but not limited to:

- a. U-bolt;
- b. the suspension mounting pad area of the axle;
- c. the front leaf springs in the area of the U-bolt clamp;
- d. the shock absorber mounting brackets;
- e. the tapered shims;
- f. retaining nuts; and
- g. washers.

In this review, identify any significant changes including, but not limited to:

- a. the material composition and/or geometric profile of the components;
- b. the shape, flatness and/or cleanliness of interfacing clamped surfaces; and
- c. the methods used to assemble the U-bolt system and/or the processes used to control the consistency and quality of the U-bolt assembly and tightening process.

For each significant modification or change, provide the following information:

- a. The date or approximate date on which the modification or change was incorporated into vehicle production;
- b. A detailed description of the modification or change;
- c. The reason(s) for the modification or change;
- d. The part numbers (service and engineering) of the original component;
- e. The part number (service and engineering) of the modified component;
- f. Whether the original unmodified component was withdrawn from production and/or sale, and if so, when;
- g. When the modified component was made available as a service component; and,
- h. Whether the modified component can be interchanged with earlier production components.

Also, provide the above information for any modification or change that VTNA is aware of which may be incorporated into vehicle production within the next 120 days.

Representative Sketch / Diagram

11. Provide a representative engineering sketch(s), engineering drawing or pictorial that illustrates the front suspension U-bolt system and mating components (i.e. the assembled leaf springs, shock absorber brackets, spacers, washers, and nuts) as installed in the subject vehicles.

Identify and describe any front suspension U-bolt systems that were installed in the subject vehicles that consisted of significantly different components or were assembled using significantly different methods than described or depicted in the "representative" sketch and identify the VINs of vehicles which were equipped with alternative U-bolt retention systems or methods.

Replacement Parts

12. State the number of front suspension U-bolts (whether sold as loose components or part of a service kit) that VTNA has sold that may be installed in the subject vehicles by component or kit name and part number

Also, identify by make, model and model year, any other vehicles of which VTNA is aware that contains the identical component(s), whether installed in production or in service, and state the applicable dates of production or service usage.

Design and Development

13. Provide a copy of any engineering analysis or laboratory, test track, or field testing that estimates, assesses or provides an analyses of:

- a. the clamping capability of the front suspension U-bolt clamp;
- b. the expected loads at the U-bolt clamp when subjected to various vehicle operating and maneuvering conditions at the front axle rated load (GAWR); and
- c. the expected loads into the front suspension U-bolt system when subjected to various vehicle operating and maneuvering conditions at the GAWR load ranges referenced in VTNA Campaigns identified as NHTSA 99V-093 and NHTSA 02V-310.

Other

14. Provide a copy of all examination reports associated with the TRW steering gear returned to VTNA from H.O.T. Transport.

This letter is being sent to VTNA pursuant to 49 U.S.C. § 30166, which authorizes NHTSA to conduct any investigation that may be necessary to enforce Chapter 301 of Title 49 and to request reports and the production of things. It constitutes a new request for information. VTNA's failure to respond promptly and fully to this letter could subject VTNA to civil penalties pursuant to 49 U.S.C. § 30165 or lead to an action for injunctive relief pursuant to 49 U.S.C. § 30163. (Other remedies and sanctions are available as well.) Please note that maximum civil penalties under 49 U.S.C. § 30165 have increased as a result of the recent enactment of the Transportation Recall Enhancement, Accountability, and Documentation (TREAD) Act, Public Law No. 106-414 (signed November 1, 2000). Section 5(a) of the TREAD Act, codified at 49 U.S.C. § 30165(b), provides for civil penalties of up to \$5,000 per day, with a maximum of \$15 million for a related series of violations, for failing or refusing to perform an act required under 49 U.S.C. § 30166. This includes failing to respond to ODI information requests.

If VTNA cannot respond to any specific request or subpart(s) thereof, please state the reason why it is unable to do so. If on the basis of attorney-client, attorney work product, or other

privilege, VTNA does not submit one or more requested documents or items of information in response to this information request, VTNA must provide a privilege log identifying each document or item withheld, and stating the date, subject or title, the name and position of the person(s) from, and the person(s) to whom it was sent, and the name and position of any other recipient (to include all carbon copies or blind carbon copies), the nature of that information or material, and the basis for the claim of privilege and why that privilege applies.

VTNA's response to this letter, in duplicate, together with a copy of any confidentiality request, must be submitted to this office by May 2, 2003. Please identify VTNA's response to this inquiry with NHTSA Investigation Number EA02-021. If VTNA finds that it is unable to provide all of the information requested within the time allotted, VTNA must request an extension from Mr. Richard Boyd at 202-366- 4933, no later than five business days before the response due date. If VTNA is unable to provide all of the information requested by the original deadline, it must submit a partial response by the original deadline with whatever information VTNA then has available, even if an extension has been granted.

If VTNA claims that any of the information or documents provided in response to this information request constitute confidential commercial material within the meaning of 5 U.S.C. § 552(b)(4), or are protected from disclosure pursuant to 18 U.S.C. § 1905, VTNA must submit supporting information together with the materials that are the subject of the confidentiality request, in accordance with 49 CFR Part 512, to the Office of Chief Counsel (NCC-113), National Highway Traffic Safety Administration, Room 5219, 400 Seventh Street, S.W., Washington, D.C. 20590. VTNA is required to submit two copies of the documents containing allegedly confidential information (except only one copy of blueprints) and one copy of the documents from which information claimed to be confidential has been deleted.

If you have any technical questions concerning this matter, please call Mr. Tom Bowman of my staff at (202) 366-6961.

Sincerely,

Original Signed By

Richard Boyd, Chief
Office of Defects Investigation
Medium and Heavy Truck Vehicle Division
Enforcement

